

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1-16 (Canceled).

1 17. (Original) A computer-readable storage medium storing instructions
2 that when executed by a computer cause the computer to perform a method for
3 performing a minimum computation for an interval operation, the method
4 comprising:
5 receiving at least four floating-point numbers, including a first floating-
6 point number, a second floating-point number, a third floating-point number and a
7 fourth floating-point number; and
8 computing a minimum of the at least four floating-point numbers;
9 wherein if the at least four floating-point numbers include one or two
10 default NaN (not-a-number) values and the remaining values are not default NaN
11 values, the default NaN values are ignored in computing the minimum.

1 18. (Original) The computer-readable storage medium of claim 17,
2 wherein the minimum is a left endpoint of a resulting interval of the
3 interval operation;
4 wherein the first floating-point number is the result of an operation
5 between the left endpoint of a first interval and the left endpoint of a second
6 interval;

7 wherein the second floating-point number is the result of the operation
8 between the left endpoint of the first interval and the right endpoint of the second
9 interval;
10 wherein the third floating-point number is the result of the operation
11 between the right endpoint of the first interval and the left endpoint of the second
12 interval; and
13 wherein the fourth floating-point number is the result of the operation
14 between the right endpoint of the first interval and the right endpoint of the second
15 interval.

1 19. (Original) The computer-readable storage medium of claim 17,
2 wherein computing the minimum involves setting the minimum to a value
3 representing the empty interval, if any of the at least four floating-point numbers
4 contain the value representing the empty interval.

1 20. (Original) The computer-readable storage medium of claim 19,
2 wherein the value representing the empty interval is a non-default NaN value.

1 21. (Original) The computer-readable storage medium of claim 18,
2 wherein computing the minimum involves setting the minimum to negative
3 infinity if the first floating-point number is a default NaN value and the fourth
4 floating-point number is the default NaN value.

1 22. (Original) The computer-readable storage medium of claim 18,
2 wherein computing the minimum involves setting the minimum to negative
3 infinity if the second floating-point number is a default NaN value and the third
4 floating-point number is the default NaN value.

1 23. (Original) The computer-readable storage medium of claim 17,
2 wherein if none of the at least four floating-point numbers is a default NaN value
3 or a value representing the empty interval, computing the minimum involves
4 selecting the minimum of the at least four floating-point numbers.

1 24. (Original) The computer-readable storage medium of claim 18,
2 wherein the operation can include one of a multiplication operation and a division
3 operation.

1 25. (Original) A computer-readable storage medium storing instructions
2 that when executed by a computer cause the computer to perform a method for
3 performing a maximum computation for an interval operation, the method
4 comprising:
5 receiving at least four floating-point numbers, including a first floating-
6 point number, a second floating-point number, a third floating-point number and a
7 fourth floating-point number; and
8 computing a maximum of the at least four floating-point numbers;
9 wherein if the at least four floating-point numbers include one or two
10 default NaN (not-a-number) values and the remaining values are not default NaN
11 values, the default NaN values are ignored in computing the maximum.

1 26. (Original) The computer-readable storage medium of claim 25,
2 wherein the maximum is a right endpoint of a resulting interval of the
3 interval operation;
4 wherein the first floating-point number is the result of an operation
5 between the left endpoint of a first interval and the left endpoint of a second
6 interval;

7 wherein the second floating-point number is the result of the operation
8 between the left endpoint of the first interval and the right endpoint of the second
9 interval;
10 wherein the third floating-point number is the result of the operation
11 between the right endpoint of the first interval and the left endpoint of the second
12 interval; and
13 wherein the fourth floating-point number is the result of the operation
14 between the right endpoint of the first interval and the right endpoint of the second
15 interval.

1 27. (Original) The computer-readable storage medium of claim 25,
2 wherein computing the maximum involves setting the maximum to a value
3 representing the empty interval, if any of the at least four floating-point numbers
4 contain the value representing the empty interval.

1 28. (Original) The computer-readable storage medium of claim 27,
2 wherein the value representing the empty interval is a non-default NaN value.

1 29. (Original) The computer-readable storage medium of claim 26,
2 wherein computing the maximum involves setting the maximum to positive
3 infinity if the first floating-point number is a default NaN value and the fourth
4 floating-point number is the default NaN value.

1 30. (Original) The computer-readable storage medium of claim 26,
2 wherein computing the maximum involves setting the maximum to positive
3 infinity if the second floating-point number is a default NaN value and the third
4 floating-point number is the default NaN value.

1 31. (Original) The computer-readable storage medium of claim 25,
2 wherein if none of the at least four floating-point numbers is a default NaN value
3 or a value representing the empty interval, computing the maximum involves
4 selecting the maximum of the at least four floating-point numbers.

1 32. (Original) The computer-readable storage medium of claim 26,
2 wherein the operation can include one of a multiplication operation and a division
3 operation.

1 33-48 (Canceled).